APPENDIX E

RESPONSE TO COMMENTS

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January 15, 2004

GCL-05

Mr. Richard Chase
Gregory Canyon Ltd.
991-C 404 Lomas Santa Fe Drive
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Subject: Year 2003 Arroyo Southwestern Toad Survey Report for the Gregory Canyon Landfill

Dear Mr. Chase:

In spring 2003, HELIX Environmental Planning, Inc. (HELIX) performed U.S. Fish and Wildlife Service (USFWS) protocol surveys for the arroyo southwestern toad (*Bufo microscaphus californicus*)[1] on the Gregory Canyon Landfill site. This letter presents the results of these surveys. A copy of this report will be submitted to the USFWS as required by the USFWS Survey Protocol for the Arroyo Toad dated May 19, 1999.

The proposed Gregory Canyon Landfill project site is located in northeastern San Diego County just south of Highway 76 and approximately 3.5 miles east of Interstate 15[2]. The site includes portions of the San Luis Rey River and surrounding floodplain areas, the western half of Gregory Mountain, and two other prominent unnamed peaks (Figure 1).

The San Luis Rey River is a large river that conducts high flows in the rainy season. Based on historic aerial photographs (circa 1928), the riparian habitat on site was historically very wide, with multiple shallow, braided channels. Over time, the riparian areas on site have been narrowed and altered due to changes up and downstream, including construction and maintenance of dairies, berms, road crossings, and bridges. Currently, approximately a 1.5-mile stretch of the San Luis Rey River occurs within the site boundaries, consisting of approximately 62.1 acres of riparian habitats (i.e., southern willow scrub, cottonwood-willow riparian forest, and mule fat scrub), 0.4 acre of pond habitat, and 12.5 acres of open channel.

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[1]In Collins et al. 1997. Standard Common and Current Scientific Names for North American Amphibians and Reptiles. Society for the Study of Amphibians and Reptiles, Herpetological Circular No. 25. The toad is now recognized as a full species, *Bufo californicus*.

[2]Sections 29, 30, 31, 32, and 33, Township 9 South, Range 2 West, and Sections 4, 5, and 6, Township 10 South, Range 2 West, U.S. Geological Survey 7.5-minute Quadrangles Bonsall and Pala.

METHODS

The arroyo southwestern toad has been observed on site by Dudek and Associates in 1995 and HELIX in 1999 and 2000. To this end, the on-site survey area included the entire 1.5-mile stretch of the San Luis Rey River and adjacent accessible upland areas out of the floodplain (not including steep, densely vegetated slopes, for example). The survey area also extended off site to just west of the Couser Canyon bridge area. See Figure 1 for the entire survey area. HELIX biologists Scott Taylor, Brian Parker, Patrick McNicholas and Dale Ritenour conducted the 2003 surveys. As noted above, these surveys were conducted according to the latest (1999) USFWS protocol for presence/absence of the species. Survey statistics are provided in Table 1.

Table 1
SURVEY INFORMATION

Survey Date	Personnel*	Start/Stop Times	Moon	Weather Conditions
Daytime Assessment				
March 31, 2003	ST	1800/1900	N/A	Clear, 62°F, wind 0 mph
Nighttime Surveys				
March 31, 2003	ST, BP, DR, PM	2000/2245	New	Clear, 52-56°F, wind 0 mph.
April 8, 2003	ST, BP, DR, PM	2010/2240	First quarter	Clear, 55-63°F, wind 0-2 mph
May 8, 2003	ST, BP, DR, PM	2035/2208	First quarter	Partly cloudy, 55-58°F, wind 2-3 mph
June 9, 2003	ST, BP, DR, PM	2100/2230	First quarter	Overcast, 57-62°F, wind 0 mph
June 12, 2003	ST, BP, DR, PM	2117/2315	Two days before full	Overcast, 62°F, wind 0 mph
June 24, 2003	ST, BP, DR, PM	2100/2320	New	Clear, 57-61°F, wind 0 mph

*ST=Scott Taylor, BP=Brian Parker, DR=Dale Ritenour, PM=Patrick McNicholas

Survey methods consisted of both daytime and nighttime components. The daytime component consisted of assessing the entire site during daylight hours prior to the first survey day and determining survey routes and areas with the best likelihood for toads. In addition, the technique included searching for eggs and larvae along the stream in areas that appeared suitable. Care was taken when walking in the stream and open channel areas so as not to disturb potential burrowed toads or toads at any other life history stage.

The nighttime component was conducted between the period one hour after dusk and midnight. Surveyors avoided surveying on nights of a full/nearly full moon or during inclement weather or temperature conditions. On the one survey night closest to the full moon (June 12), the overcast sky compensated for the light conditions. Nighttime surveys consisted of walking along the perimeter of the floodplain areas, listening for arroyo southwestern toad calls within the riparian areas, and recording toads observed (Figure 2). Flashlights and/or headlamps were used during the surveys to detect toad eye-shine and to "avoid disturbing, injuring, or killing toads" as stated in the survey protocol. Opportunistic observations of toads, such as along dirt access roads, were also made. Transects were walked through fallow agricultural fields, dairies, open channel areas, disturbed habitat, and annual grasslands adjacent to the floodplain. Observed toads were noted on the vegetation map (Figure 2) for the project.

Biologists conducting surveys also visually estimated the snout-vent length (SVL) of the toads without touching them by using a 10-centimeter ruler (or equivalent) held near the toads. These measurements were made to determine the approximate age of toads observed. Some SVLs were visually estimated without the aid of a ruler. Note that toads could have been naturally compressed or extended laterally when measured; for this reason, the measurements only represent an estimate of the actual size of observed toads. In this report, we have assumed that all toads equal to or greater than 6.0 centimeters SVL are adults. Our analysis did not include marking or sexing of toads, so we were limited in our ability to track which toads observed were unique and which had been observed during previous surveys.

SURVEY RESULTS

Four arroyo southwestern toads were observed during the entire survey period (Table 2). Of the four toads observed, one was within the proposed bridge crossing area, while the other three were in areas proposed for open space preservation (Figure 2). A single toad was seen along the dirt aqueduct road, another was observed on the sandy floodplain south of the riverbed, the third on a dirt road crossing Gregory Canyon, and the fourth toad was observed in sandy alluvium in the floodplain areas south of the San Luis Rey River (Figure 2). No arroyo southwestern toads were observed to the north of the river in either the active (i.e., Verboom) or inactive (i.e., Lucio) dairies, nor were they observed near the Couser Canyon Road bridge area or within the fallow agricultural fields.

Table 2 ARROYO TOAD SURVEY RESULTS		
Survey Date	Number of Toads @ Measurement	Comments
March 31, 2003	Not applicable	No toads observed
April 8, 2003	1 @ 3.5 centimeters SVL	A single toad was seen along the dirt aqueduct road.
May 8, 2003	N/A	No toads observed
June 9, 2003	2 @ 3.5 centimeters SVL	A single toad was observed on the sandy floodplain north of the riverbed and another on a dirt road crossing Gregory Canyon.
June 12, 2003	1 @ 3.5 centimeters SVL	A single toad was observed along the aqueduct road.
June 24, 2003	Not applicable	No toads observed

Toad SVLs were all around 3.5 centimeters, most likely indicating that the observations represented immature subadults or juveniles. As discussed under the Methods section of this report, the measurement techniques used slightly overestimated or underestimated the actual size of toads observed.

No arroyo toads were heard calling at any time during the survey period. Since no toads were calling, it is possible that no toad breeding took place on the project site this year.

DISCUSSION

During last toad survey period (2000) conducted by HELIX, 35 toads were observed, whereas only four were observed in 2003. The reasons are unclear, since the water level in the river seemed to be sufficient to provide suitable breeding areas. It could be that the habitats along the river have become unsuitable for breeding due to increased canopy density and/or due to recent droughts or other disturbances. Possibly other recent developments upstream have contributed to a decrease in toads on site as well.

Upland toad use areas at this time appear to include primarily terraces along the south side of the San Luis Rey River that have been used in the past for agriculture and now support grassland. This is consistent with our 2000 data, which also suggested that toads often use dirt roads on site. However, these upland areas have undergone considerable changes in the past three years. As a result of the removal of cattle from the site, grassland areas are more dense. Dirt roads that were formerly kept clear of vegetation by local residents and farmers are now

overgrown with vegetation. Some areas that were fairly open in 2000 now support such thick vegetation that they were not practical to survey.

A lack of toads or apparent low toad density this year compared to 2000 does not necessary relay an accurate picture of breeding toad use of the site. Similar low numbers were reported by Dudek in 1995 (one calling male toad was observed on site, but there were several developing toads). However, HELIX historic data indicate a minimum of six male adults (12 total adults) in 1998 and a maximum of eight male adults (16 total adults) may have been present on site in 2000. It warrants consideration that a lack of calling toads in both 2000 and 2003 may be explained by unsuitable site conditions (drought in 2000 and thick vegetation in 2003).

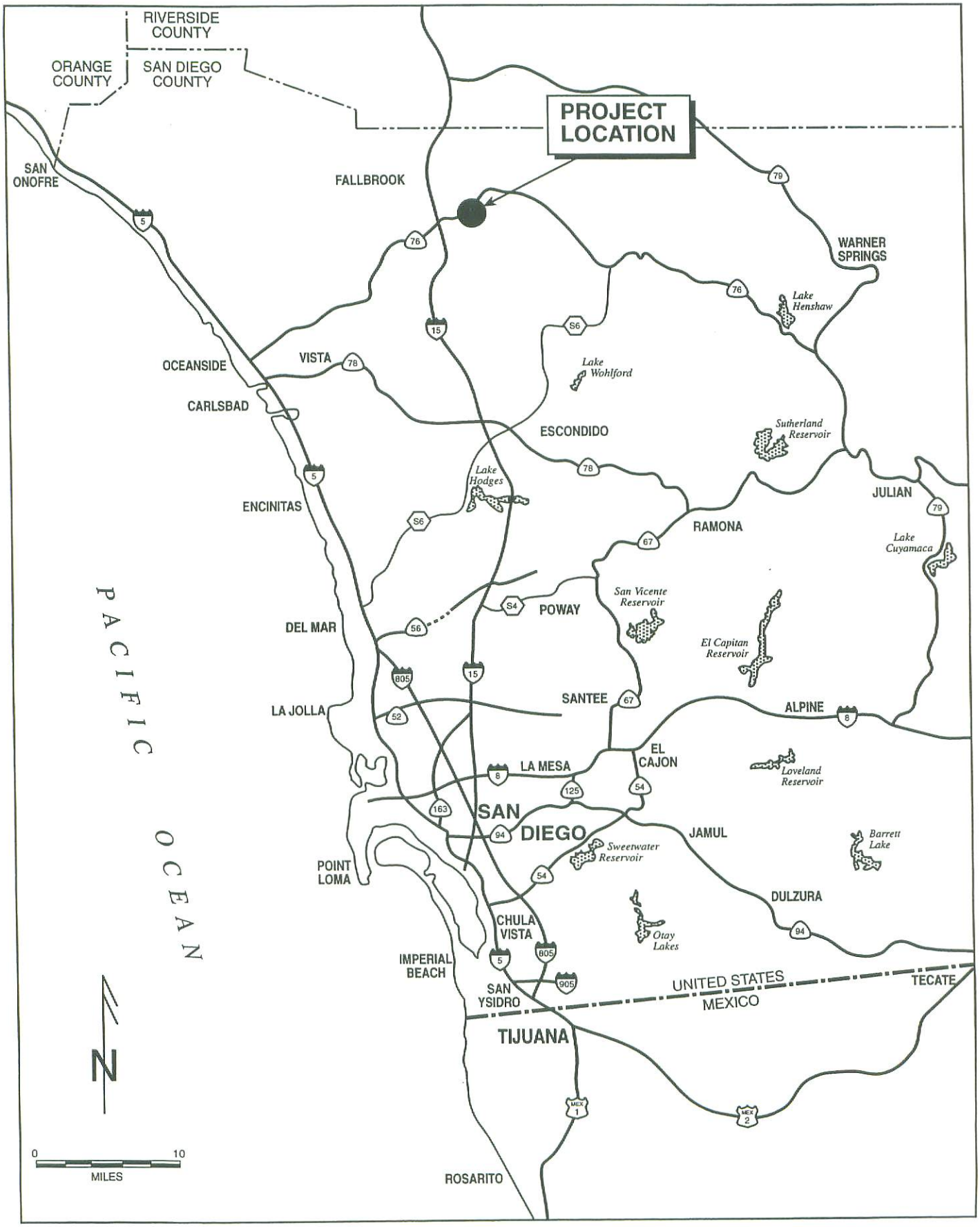
Please contact me or Kim Baranek if you have any questions about the surveys or the contents of this letter.

Sincerely,

Scott Taylor
Wildlife Biologist

Enclosures: Figure 1 Regional Location Map
Figure 2 Gregory Canyon Landfill Vegetation/Impacts Map with Year 2003 Arroyo Southwestern Toad Survey Results

copy: Daniel Marquez, U.S. Fish and Wildlife Service, including enclosures

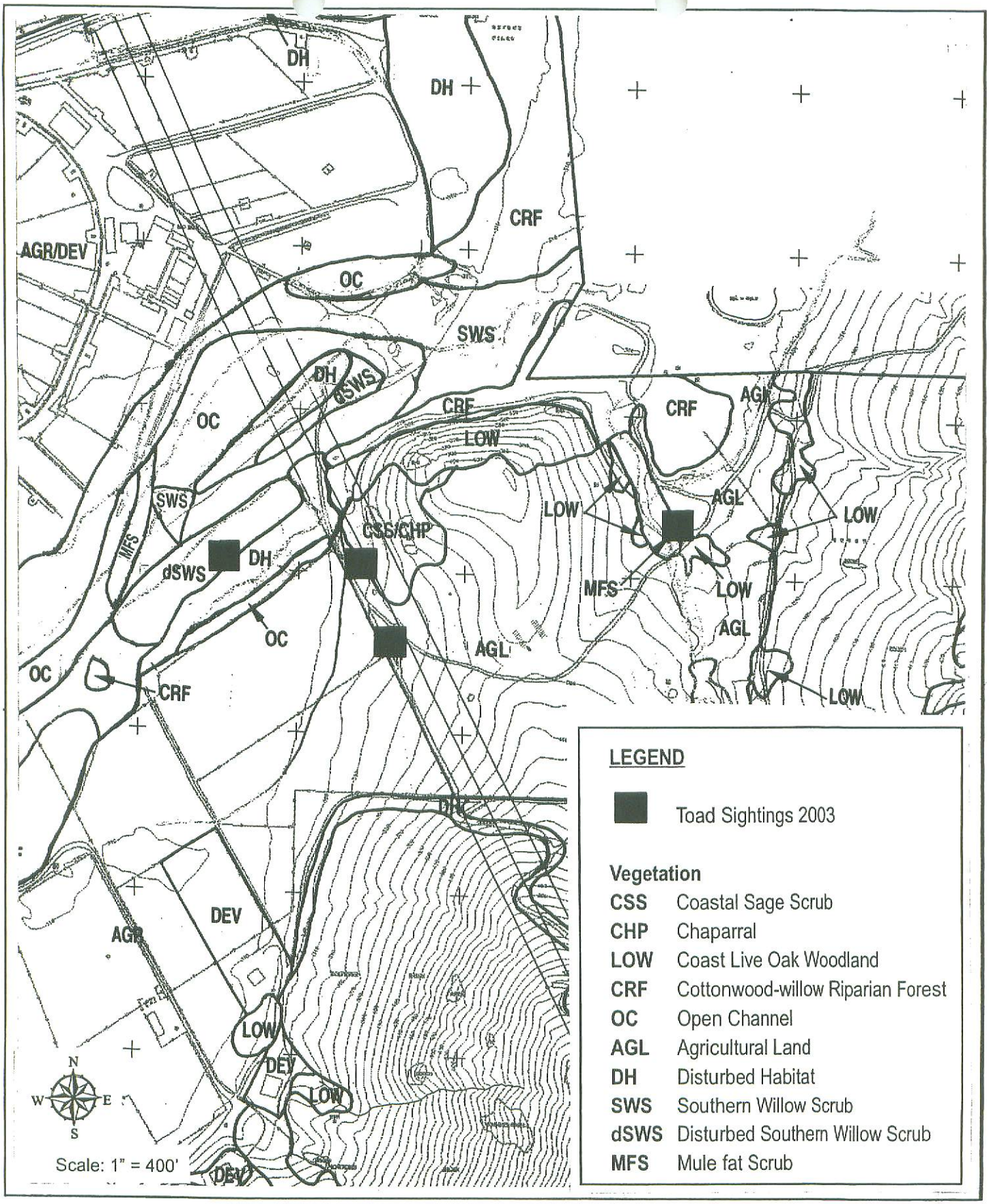


Regional Location Map

GREGORY CANYON LANDFILL PROJECT

HELIX

Figure 1



Arroyo Southwestern Toad Locations

GREGORY CANYON LANDFILL PROJECT

Figure 2

HELIX

2003 Least Bell's Vireo, Southwestern Willow Flycatcher Survey Results for the Gregory Canyon Landfill Project, San Diego County, California.

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Prepared by:

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October 5, 2003

Introduction

The following report summarizes the results of surveys conducted for the Least Bell's Vireo (*Vireo bellii pusillus*), and Southwestern Willow Flycatcher (*Empidonax traillii extimus*) for the Gregory Canyon Landfill Project located within northern San Diego County, California. Project work was performed by Jennifer Turnbull of TW Biological Services.

Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) is a small migratory songbird which is an obligate summer resident of riparian habitat within southern California and northwestern Baja California, Mexico. Historically considered a common breeding resident within lowland riparian habitat areas throughout California from the northern Sacramento Valley south into northwestern Baja California, Mexico (Franzreb 1989), the least Bell's vireo began to experience widespread declines during the mid 1900's from extensive habitat destruction and brood parasitism by the brown-headed cowbird (*Molothrus ater*). With the loss of over 90 percent of California's riparian habitat and persistent pressure from brood parasitism, the least Bell's vireo was found in only small localized populations within 7 California counties during survey efforts conducted in 1978 (Goldwasser et al. 1980). First listed as an endangered species by the state of California in 1980, the species was listed as federally endangered in 1986 when the estimated statewide population was approximately 300 breeding pairs. After receiving endangered species status, intensive management and conservation efforts including habitat protection and restoration, cowbird control, and nest monitoring programs were instituted to reverse the decline of the vireo population within California. These efforts, coupled with the protection and subsequent natural recovery of riparian habitat, have lead to a dramatic increase in the vireo population, and by 1999 there were approximately 1800 territorial males documented in California (L.Hays,U.S. Fish and Wildlife Service, pers. comm.).

Southwestern Willow Flycatcher

The southwestern willow flycatcher is one of four willow flycatcher subspecies in North America. Similar to the least Bell's vireo, it is also a small, migratory, insectivorous songbird which is an obligate summer breeding resident of riparian habitat. Suffering from habitat loss and disturbance, and to a lesser degree cowbird brood parasitism, the southwestern willow flycatcher population has declined dramatically in recent decades (Unitt 1987, Whitfield and Sogge 1999). The total population is currently estimated at approximately 900 breeding territories within limited portions of California, Nevada, Arizona, Utah, Colorado, and New Mexico (Sogge et al. 2000). In California there are approximately 160 known breeding territories distributed within 32 locations in nine counties (Kus et al. 2000), with the majority of the population concentrated at three sites, including the South Fork of the Kern River in Kern County (Whitfield and Sogge), the Santa Margarita River on Camp Pendleton, and the upper San Luis Rey River below Lake Henshaw (Kus et al. 1999, Winter and McKelvey 1999). The remaining sites (82%) where southwestern willow flycatchers are known to occur are small, isolated populations of less than

five breeding pairs (Kus et al. 2000). Listed by the state of California as endangered in 1991, the southwestern willow flycatcher was listed as a federally endangered species in February of 1995.

Project Area

Located within the northeastern portion of San Diego County, the project area occurs within the San Luis Rey river, approximately 3.5 miles east of Interstate 15 (Figure 1). Approximately 39 acres in size, the survey area consists of 2 survey locations, roughly 1,600 feet apart. Habitat within the survey area consists of willow/cottonwood riparian woodland, mulefat scrub and freshwater marsh.

Methods

Eight least Bell's vireo surveys were conducted at least ten days apart between May 2nd and July 26th (Table 1). Five willow flycatcher surveys were conducted, including one between May 15 - 31, one between June 1-21, and three at least five days apart between June 21- July 17. Survey efforts for least Bell's vireos and southwestern willow flycatchers were initiated in the early morning hours when vireo and flycatcher behavior and weather conditions are the most conducive to species detection. Surveys were conducted by slowly walking through all suitable habitat, observing and listening for each species' distinctive song and/or vocalizations. A taped playback of each species' song was also utilized to aid in detection or confirmation of species' presence. All surveys were conducted in accordance with established U.S. Fish and Wildlife Service protocol.

Results

Least Bell's Vireo

A total of six least Bell's vireo pairs were present within the survey area (Figure 2 and 3). Four of the six pairs were observed with juveniles during the survey period. Four additional territories were detected within habitat directly adjacent to the survey areas.

Southwestern Willow Flycatcher

There were no southwestern willow flycatchers present within the survey area.

Brown-headed Cowbird

Cowbirds were observed on three occasions during the survey period. No evidence of cowbird parasitism was observed within the survey area.

Table 1. Survey schedule for Gregory Canyon Landfill project

Date	Survey Time	Species Surveyed	Comments
2-May	0600-0930	Least Bell's Vireo	2 confirmed vireo pairs and 4 males
17-May	0615-1045	Least Bell's Vireo	5 pairs and 1 male observed
24-May	0546-1045	Willow Flycatcher	No flycatchers present
28-May	0630-1100	Least Bell's Vireo	6 pairs present, 2 of these observed with fledges
11-Jun	0700-1130	Least Bell's Vireo	6 pairs present
17-Jun	0630-1100	Willow Flycatcher	No flycatchers present
23-Jun	0715-1145	Least Bell's Vireo	1 pair observed with juvenile and 4 males heard
1-Jul	0600-1030	Least Bell's Vireo	4 pairs with young and 2 males heard
5-Jul	0545-1030	Willow Flycatcher	No flycatchers present
11-Jul	0600-1000	Willow Flycatcher	No flycatchers present
13-Jul	0645-1100	Least Bell's Vireo	3 adults observed w/ juveniles, and 2 males heard
17-Jul	0600-1015	Willow Flycatcher	No flycatchers present
26-Jul	0700-1045	Least Bell's Vireo	2 adults observed w/ juveniles, and 2 males heard

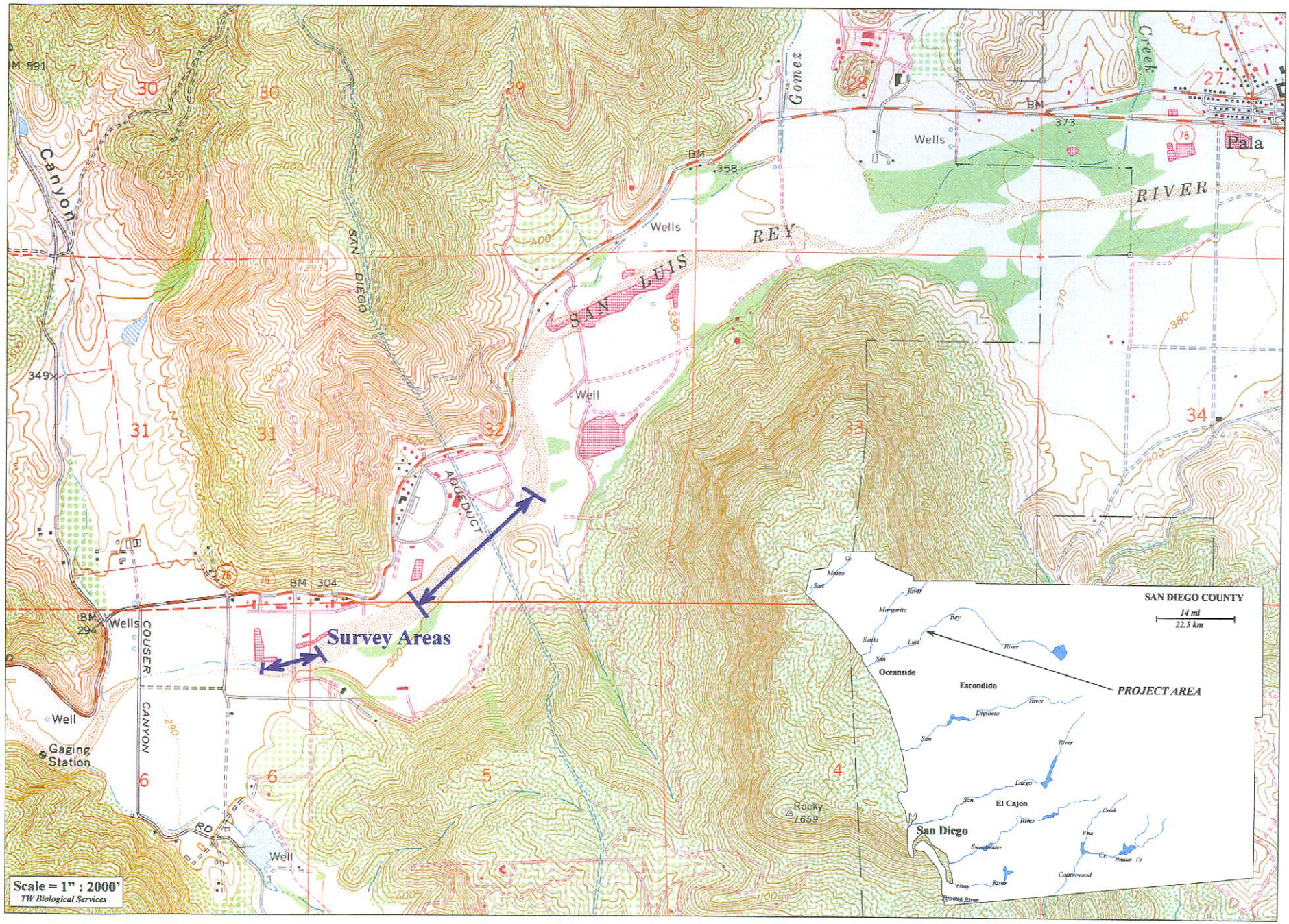

Figure 1. Gregory Canyon Landfill project area and survey locations, San Luis Rey River, San Diego County, 2003.

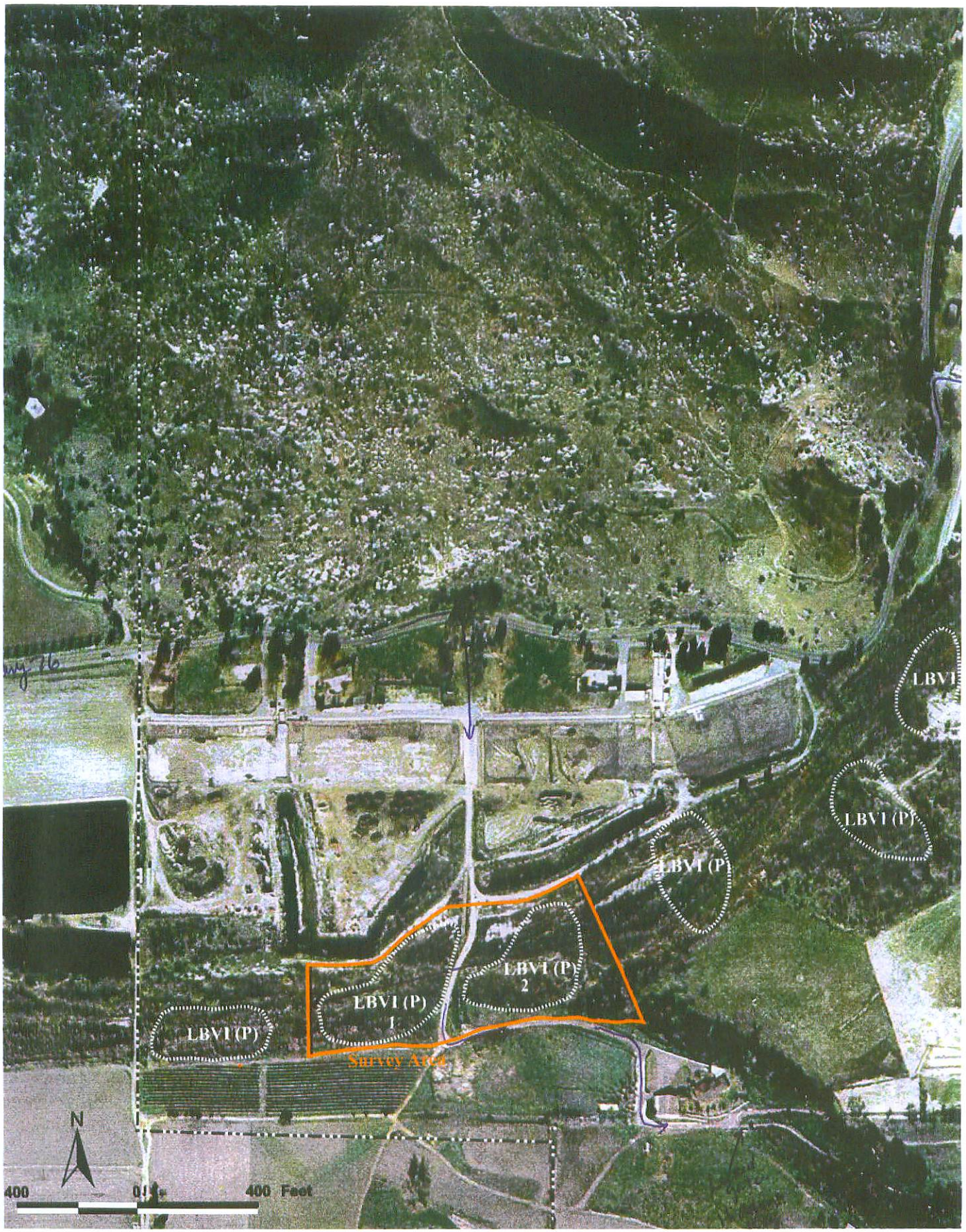

Figure 2. Least Bell's Vireo Locations within the Gregory Canyon Landfill Project Survey Area, 2003.

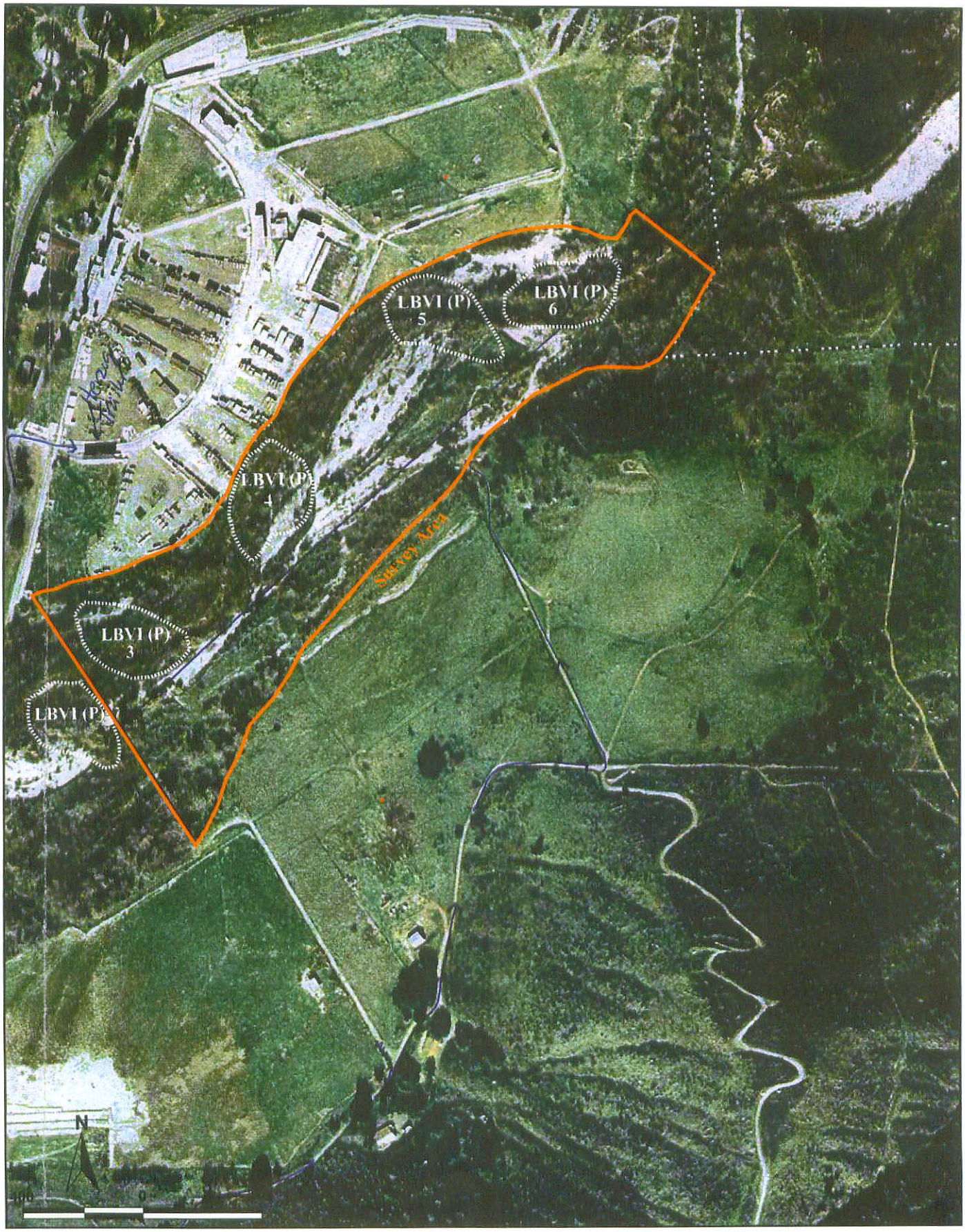

Figure 3. Least Bell's Vireo Locations within the Gregory Canyon Landfill Project Survey Area, 2003.

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